

From 1903, much of his publication was done conjointly with the writer but the greater part of the detailed work was done by him. There are, however, approximately thirty larger and more important papers for which he was willing to assume the sole responsibility.

At his death he was working hard to complete the final volume of "The Marine Algae of the Pacific Coast of North America," a work including the practical monographing of a number of large polymorphous genera of difficult red algae of wide distribution. His thoroughness and patience showed at their best in this work.

As a teacher, he was quiet and meticulous, not so successful with large classes but, with small groups, his pupils received the utmost attention and serious students appreciated his methods.

He was assiduous in exploring and devising methods for the culture of his algae, for their proper preservation for future examination, and for all methods of microtechnique, fixing, staining, sectioning, as well as obtaining the best possible optical demonstration of their habit and structure.

Personally, Dr. Gardner was of a retiring disposition, content to carry on his work and his studies without "fuss or flurry." He was always willing to interrupt his own work to help a worthy beginner or more advanced student and gave freely of his own resources, both material and intellectual. His was not an enthusiastic nature, but rather deliberate, weighing the possible adverse features; but his friendship, once given, was strong and enduring, not of outward demonstration, but of faithful devotion.—W. A. SETCHELL.

## A NEW PENSTEMON FROM THE CHARLESTON MOUNTAINS, NEVADA

IRA W. CLOKEY

**Penstemon Keckii** sp. nov. Herba perennis maximam partem glaucescens; rhizoma ramosa; caules erectiusculi diluto-virides vel interdum purpureo-tincti, infra glabri vel minute scabridi, supra usque ad inflorescentem minute sparseque stipitato-glandulosi; folia pallido-viridia integra glabra, margine plus minusve scabrido; folia basalia atque ea surculorum sterilia 2-6 cm. longa oblanceolata, apice obtusa vel rotundata, in petiolum alatum gradatim attenuata; folia caulina lanceolata sessilia; racemus angustus; pedicelli 3-4 mm. longi sparse glanduloso-puberulenti radiati demum sursum curvati; sepala 4-6 mm. longa sparse glanduloso-puberulenta ovata acuta vel obtusa, margine scarioso; corolla 17-23 mm. longa, faucibus 6 mm. latis, infundibuliformis aequilabiata, extus glandulosa, intus basi labri superiori excepto, eglandulosa, limbo atrocaeruleo, labro inferiore ad medium inciso, pilis albis complanatis faucibus prominente

barbatus; stamina didynama, staminibus superioribus corollae faucis excedentibus, inferioribus inclusis; loculis antherarum 1.5 mm. longis late divaricatis fulvis glabris, de apice ad basin dehiscentibus non confluentibus, suturis denticulatis; staminodium staminibus inferioribus paullo brevius, apice dilatatum pilis luteis rigidiusculus 0.6 mm. longis dense barbatus; capsula ovata acuta 10–12 mm. longa.

Perennial with branching rootstock; herbage usually glaucescent; stems commonly 8–15 cm. high but up to 25 cm., not strictly erect, light green or sometimes purplish tinged, lower part glabrous or minutely scabridulous, becoming minutely and sparingly stipitate-glandular towards and within the inflorescence; leaves light green, entire, glabrous excepting the more or less scabridulous margin; basal leaves and those of the sterile shoots 2–6 cm. long, oblanceolate, obtuse or rounded at the apex, very gradually reduced to a winged petiole; cauline leaves in two or three pairs, sessile, lanceolate; inflorescence a narrow raceme occupying  $\frac{1}{2}$  to  $\frac{2}{3}$  of stem; pedicels sparingly glandular-puberulent, radiating then curving upwards so that the flowers are erect, 3–4 mm. long; sepals sparingly glandular-puberulent, ovate, acute or obtuse, scarious margined, 4–6 mm. long; corolla deep blue 17–23 mm. long, 6–9 mm. wide at throat, funnel-shaped, the tube exceeding the calyx, glandular externally, glandular within only at base of upper lip; corolla-limb of two equal lips, the lower prominently bearded at junction with throat with flattened white hairs, the lobes cleft about  $\frac{1}{2}$  the length of the lips; upper pair of stamens exceeding throat, shorter pair included; anther sacs widely divaricate, buff, 1.5 mm. long, glabrous, dehiscent from the distal apex essentially throughout, not confluent, the suture denticulate; sterile filament reaching orifice, dilated apically, densely bearded dorsally for most of its length with relatively short (0.6 mm. long) stiffish yellow hairs; capsule ovate, acute, 10–12 mm. long.

Deep gravelly, brushy meadow in the bed of Lee Canyon, Charleston Mountains, Clark County, Nevada, altitude 2570 meters, July 3, 1936, *Clokey 7312* (type, Clokey Herbarium, South Pasadena, California; cotypes being distributed in *Exsiccatae Grayanae*). Other collections from the Charleston Mountains which represent *Penstemon Keckii* are: Lee Canyon, August 1, 1935, *Clokey 5579* (topotype), Charleston Peak, altitude 3150 meters, August 8, 1935, *Clokey 5592*, Rainbow Falls, altitude 2670 meters, July 27, 1936, *Clokey 7311*.

This is essentially a subalpine species and is widely but sparingly scattered either on open hillsides or associated with *Pinus aristata* Engelm. It extends, however, some distance below the subalpine zone. At the Lee Canyon station, where it is fairly abundant in an area about 200 yards across, the plants average somewhat larger than those in the subalpine zone; here *Penstemon Keckii* is associated with *Pinus scopulorum* (Engelm.) Lemmon.

*Penstemon Keckii* belongs to the subgenus *Glabri*. Dr. Keck suggests that this plant "is most closely related to *P. speciosus* Dougl. which, in the broad sense, extends from arid eastern Washington, southward through Oregon and the Sierra Nevada to Mount Piños in California and southern Esmeralda County in Nevada." In addition to being widely separated geographically from *P. speciosus*, *P. Keckii* is smaller and occurs at a higher elevation. The following key may serve to separate the two species:

Inflorescence glandular, corolla glandular without and within, copious beard at base of lower lip, sterile stamen strongly bearded .....	<i>P. Keckii</i>
Inflorescence and corolla not glandular, the latter sometimes with a sparingly bearded throat and sterile stamen .....	<i>P. speciosus</i>

In appreciation of the work he is doing with western *Penstemon*, it is a pleasure to name this species for Dr. David D. Keck of the Carnegie Institution of Washington at Stanford University.

South Pasadena, California,  
June, 1937.

## A NEW CALIFORNIAN SPECIES OF BRODIAEA

ROBERT F. HOOVER

*Brodiaea appendiculata* sp. nov. Cormo magno, sine pro-pagulis, cum tunica crassa fibrosa circum scapum foliaque extendente; foliis 2-4, angustis; scapo 10-40 cm. alto; perianthio infundibuliforme; tubo perianthii cylindrico, basi rotundo, 8-10 mm. longo, in fructo membranaceo; segmentis rectis, 15-20 mm. longis, exterioribus oblongis, acutis, interioribus latioribus obtusis; staminodiis linearibus, 8-12 mm. longis, obtusis vel retusis, margine involutis undulatis; filamentis 4-5 mm. longis, margine alatis, apice biappendiculatis; appendiculis linearibus, 3-5 mm. longis, undulatis; antheris 7-8 mm. longis; capsula subglobosa, apice acuta; seminibus in quoque loculo circa 5.

Corn large, deep-seated, without offsets, with a heavy coat of brown fibers which extends as a sheath around the subterranean portion of the scape and leaves; leaves 2-4, narrow; scapes stout, 1-3 from a corm, 10-40 cm. tall; umbel 3-10 flowered, the pedicels 3-9 cm. long, widely divaricate in age; perianth funnelform; perianth tube cylindric, rounded at base, green, 8-10 mm. long, in fruit membranaceous, finally brittle; segments straight (that is, not recurved), 15-20 mm. long, purple with dark mid-vein, the outer oblong, acute, the inner broader and obtuse; staminodia purple with white tips, linear, obtuse or retuse, 8-12 mm. long, with involute and undulate margin, approximate around the anthers; stamens shorter than staminodia; filaments 4-5 mm.